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Docket No.: 2185-0792PUS1  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Koji HAGIYA

Application No.: 10/574,908

Confirmation No.: N/A

Filed: April 6, 2006

Art Unit: N/A

For: METHOD FOR PRODUCING 3, 3-  
DIMETHYL-2-(1-PROPENYL)  
CYCLOPROPANE CARBOXYLATE

Examiner: Allison Purnell

**LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Subsequent to the filing of the above-identified application on April 6, 2006, attached hereto is an English Translation of the International Preliminary Report on Patentability issued by the International Bureau on behalf of the International Searching Authority. Please make this document of record for the above-identified application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for

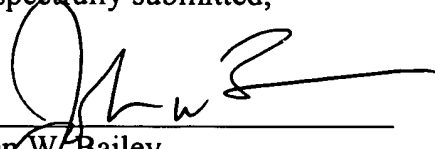
Application No.: 10/574,908

Docket No.: 2185-0792PUS1

any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Dated: August 29, 2006

Respectfully submitted,

By 

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Attachments

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference S10831WO01	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/JP2004/016703	International filing date ( <i>day/month/year</i> ) 04 November 2004 (04.11.2004)	Priority date ( <i>day/month/year</i> ) 07 November 2003 (07.11.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant SUMITOMO CHEMICAL COMPANY, LIMITED		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 27 July 2006 (27.07.2006)
Facsimile No. +41 22 338 82 70	Authorized officer  <div style="text-align: center; font-weight: bold;">Yoshiko Kuwahara</div> e-mail: <a href="mailto:pi07@wipo.int">pi07@wipo.int</a>

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**S10831WO01**

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

**PCT/JP2004/016703**

International filing date (day/month/year)

**04.11.2004**

Priority date (day/month/year)

**07.11.2003**

International Patent Classification (IPC) or both national classification and IPC

Applicant

**SUMITOMO CHEMICAL COMPANY, LIMITED**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/016703

Box No. I      Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/016703

**Box No. V** Reasoned statement under Rule 43bis.1(e)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

**1. Statements**

Novelty (N)	Claims <u>1-15</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims _____	YES
	Claims <u>1-15</u>	NO
Industrial applicability (IA)	Claims <u>1-15</u>	YES
	Claims _____	NO

**2. Citations and explanations:**

Document 1: JP 2001-261618 A (Sumitomo Chemical Co., Ltd.) 26 September 2001  
 Document 2: PATTENDEN, Gerald et al., Acid thermal decomposition products of natural  
 chrysanthemumcarboxylic acid, J. Chem. Soc. C., 1971, (16), 2739-2743: Chemical  
 abstracts, Vol. 75, No. 15, 11 October 1971, p. 286, the abstract No. 98205s  
 Document 3: JP 49-66660 A (Sumitomo Chemical Co., Ltd.) 27 June 1974  
 Document 4: JP 52-100451 A (Bayer AG) 23 August 1977  
 Document 5: JP 56-40616 A (San'abotto Kabushiki Kaisha) 16 April 1981  
 Document 6: JP 4-279540 A (Union Carbide Chemicals and Plastics Co., Ltd.) 05 October  
 1992

Documents 1-6 are cited in the ISR.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V.2

A. The inventions described in claims 1-9 and 11-15 do not appear to involve an inventive step based on documents 1-5.

Document 1 describes 3,3-dimethyl-2-(1-propenyl) cyclopropane carboxylate ester which is specified in the present application.

Meanwhile, document 2 describes production of a 3,3-dimethyl -2- (1-propenyl) cyclopropane carboxylate ester compound by a decarboxylation reaction of the 3,3-dimethyl -2- (2-carboxy-1-propenyl) cyclopropane carboxylate compound and applying this reaction to the production of the ester described in document 1 is not recognized as particularly difficult.

In addition, carrying out the decarboxylation reaction in the presence of a copper compound and a nitrogen containing aromatic compound is well known as described in documents 3-5.

B. The inventions described in claims 10 and 13 do not appear to involve an inventive step based on documents 1-6.

Document 6 describes carrying out the decarboxylation reaction in the presence of aluminum oxide.